

## WHAT IS CLAIMED IS:

1 1. A digital amplifier comprising,  
2 a gain regulation means which regulates an gain  
3 for a digital audio signal,  
4 a PWM signal generating means which generates  
5 a PWM signal from said digital audio signal, said  
6 gain which has been regulated by said gain  
7 regulation means,  
8 a switching means which switches a switching  
9 power supply in response to said PWM signal  
10 generated by said PWM signal generating means,  
11 a detecting means which detects said gain which  
12 has been regulated by said gain regulation means,  
13 and  
14 a silent PWM signal outputting means which  
15 outputs to said switching means a PWM signal having  
16 a duty ratio of 50%, instead of said PWM signal which  
17 has been generated by said PWM signal generating  
18 means, when said detecting means detects that said  
19 gain is zero.

1 2. A digital amplifier comprising,  
2 a determining means which determines a digital  
3 audio signal as a silent signal, when the digital  
4 audio signal has a bit value within a predetermined

5 range and is inputted for a predetermined period of  
6 time,

7 a PWM signal generating means which generates  
8 a PWM signal from said digital audio signal,  
9 a switching means which switches a switching  
10 power supply in response to said PWM signal  
11 generated by said PWM signal generating means, and  
12 a silent PWM signal outputting means which  
13 outputs to said switching means a PWM signal having  
14 a duty ratio of 50%, instead of said PWM signal which  
15 has been generated by said PWM signal generating  
16 means, when said determining means determines that  
17 said digital audio signal is the silent signal.

1 3. An digital amplifier comprising,  
2 an input signal determining means which  
3 determines whether or not an input signal from a  
4 reproducing unit exists,  
5 a PWM signal generating means which generates  
6 a PWM signal from a digital audio signal included  
7 in said input signal,  
8 a switching means which switches a switching  
9 power supply in response to said PWM signal  
10 generated by said PWM signal generating means, and  
11 a silent PWM signal outputting means which  
12 outputs to said switching means a PWM signal having

13 a duty ratio of 50%, instead of said PWM signal which  
14 has been generated by said PWM signal generating  
15 means, when said input signal determining means  
16 determines that said input signal from said  
17 reproducing unit is stopped.